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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/811,326 | 03/16/2001 | Larry W. Fullerton | TDCO:012 | 7179 |
| 44654 | 7590 | 08/09/2005 | EXAMINER | |
| SPRINKLE IP LAW GROUP 1301 W. 25TH STREET SUITE 408 AUSTIN, TX 78705 | | | NGUYEN, DUNG X | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2638 | |

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 09/811,326 | Applicant(s) FULLERTON ET AL. | |
| | Examiner Dung X. Nguyen | Art Unit 2631 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7 - 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 is/are allowed.
- 6) ☒ Claim(s) 7 - 14 and 16 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed on April 29, 2005 have been fully considered. Claims 1 – 6 have been canceled. Claims 7 – 17 have been added.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. **Claims 11 and 13 are rejected** under 35 U.S.C. 102(e) as being anticipated by Barnes et al. (US patent application publication # 2002/017850 A1).

Regarding claim 11, Barnes et al. discloses (figure 5):

- Receiver code circuitry configured to inherently supply a set of code implements (522), each of the set of code sequence element having an inherent timing component and an inherent amplitude component corresponding to the timing component (514) (page 7, second column, lines 32 – 37 and page 6, second column, lines 21 – 24);

- Receiver circuitry operable to multiply (510) a template signal (528) with each of the set of code sequence elements (522) to generate a receiving template signal and correlate (510) the receiving with a pulse signal (page 7, second column, lines 35 – 37).

Regarding claim 13, Barnes et al. discloses (figure 5):

- Generating a receiving template signal (528), wherein generating the receiving template signal comprises inherent convoluting (510) a template signal (528) with a set of code implements (522), each of the set of code sequence element having an inherent timing component and an inherent amplitude component corresponding to the timing component (514) (page 7, second column, lines 32 – 37 and page 6, second column, lines 21 – 24);
- Correlating (510) the receiving template signal with a received pulse signal (page 7, second column, lines 35 – 37).

The applied reference has common functions with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. **Claim 14 is rejected** under 35 U.S.C. 103(a) as being unpatentable over Barnes et al. (US patent application publication # 2002/017850 A1).

Regarding claim 14, as followed by the limitations analyzed in claim 13, Barnes et al. differs from the instant claimed invention that it does not expressly show the step of decoding a detected signal, wherein the detected signal is produced by correlating the receiving template signal with the received pulse signal.

However, Barnes et al. further discloses (figure 5) the step of demodulating a detected signal (532, 534, 536, 538), wherein the detected signal is produced by correlating (510) the receiving template signal (528) with the received pulse signal (page 7, paragraph # 0105).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to recognize and implement Barnes et al. to provide the requirements of the instant claimed invention for further processing the detected signal.

6. **Claims 7 and 9, are rejected** under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. (US patent # 3,938,150), and further in view of McCorkle et al. (US patent application publication # 2003/0053555 A1).

Regarding claim 7, Phillips et al. discloses a RF apparatus (column 2, lines 15 – 23), comprising:

- Transmitter code circuitry configured to supply a set of code sequence elements, each of the set of code sequence elements having a timing component and an amplitude component corresponding to the timing component (column 4, lines 34 – 48).

Phillips et al. differs from the instant claimed invention that it does not show that transmitter circuitry operable to multiply a pulse signal with each of the set of code sequence elements to generate an impulse train.

However, McCorkle et al. discloses that transmitter circuitry operable to multiply a pulse signal with each of the set of code sequence elements to generate an impulse train (page 5, second column, paragraph # 0092 and paragraph # 0097).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Phillips et al. and McCorkle et al. to provide the requirements of the instant claimed invention for smoothing the spectrum by the modulation of the pulse shape (page 1, second column, lines 35 – 38 of McCorkle et al.).

Regarding claim 9, the limitations are analyzed in the same manner set forth as claim 7, plus the statement of “transmitting the impulse train” is very obvious and well known in the art.

7. **Claims 8 and 10 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. (US patent # 3,938,150), McCorkle et al. (US patent application publication # 2003/0053555 A1), and further in view of Somayazulu et al. (US patent # 6,882,679 B2).

Regarding claim 8, as followed by the limitations analyzed in claim 7, Phillips et al. and McCorkle et al. differ from the instant claimed invention that they do not show that wherein the set of code sequence elements comprises a Barker sequence.

However, Somayazulu et al. discloses show that wherein the set of code sequence elements comprises a Barker sequence (column 2, lines 5- 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Phillips et al., McCorkle et al., and Somayazulu et al. to provide the requirements of the instant claimed invention for eliminating the potential interference radiators (column 2, lines 32 – 36 of Somayazulu et al.).

Regarding claim 10, as followed by the limitations analyzed in claim 9, the limitations are analyzed in the same manner set forth as claim 8.

8. **Claims 12 and 16 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Barnes et al. (US patent application publication # 2002/017850 A1), and further in view of Burrows (US patent # 5,381,798).

Regarding claim 12, as followed by the limitations analyzed in claim 7, Barnes et al. differs from the instant claimed invention that it does not show that wherein the set of code sequence elements comprises a Barker sequence.

However, Burrows discloses show that wherein the set of code sequence elements comprises a Barker sequence (column 6, lines 53- 56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Barnes et al. and Burrows to provide the requirements of the instant claimed invention for producing A RF output so that the modulation rate corresponds to the template rate (column 6, lines 59 – 62 of Burrows).

Regarding claim 16, as followed by the limitations analyzed in claim 13, the limitations are analyzed in the same manner set forth as claim 12.

Allowable Subject Matter

9. **Claim 15 is objected** to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. **Claim 17 is allowed.** The following is a statement of reasons for the indication of allowable subject matter:

Regarding to claim 17, the prior art of record fails to show or render obvious of a method of transmitting using a RF apparatus, comprising:

Generating a first pulse signal;

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Generating an impulse train from the pulse signal, wherein generating the impulse train comprises convoluting the first pulse signal with a set of code sequence elements, each of the first set of code sequence elements having a timing component and an amplitude component corresponding to the timing component;

Transmitting the impulse train;

Receiving a composite signal, wherein the composite signal comprises the impulse train and at least one multipath signal;

Generating a receiving template signal, wherein generating the receiving template signal comprises convoluting a template signal with a set of code sequence elements, each of the set of code sequence elements having a timing component and an amplitude component corresponding to the timing component; and

Correlating the receiving template signal with the composite signal to produce a detected signal; and

Decoding the detected signal.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (571) 272-3010. The examiner can normally be reached on Monday through Friday from 8:00 AM to 17:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Vanderpuye Kenneth N. can be reached on (571) 272-3078. The fax phone numbers for this group is (571) 273-3021.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

DXN
July 26, 2005


KENNETH VANDERPUYE
PRIMARY EXAMINER